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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/643,063	08/18/2003	Wing-Kit Choi	UCF-372	4155
7590 Brians S. Steinberger 101 Brevard Avenue Cocoa, FL 32922		05/31/2007	EXAMINER NGUYEN, DUNG T	
			ART UNIT 2871	PAPER NUMBER
			MAIL DATE 05/31/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

**Office Action Summary**

Application No.

10/643,063

Applicant(s)

CHOI ET AL.

Examiner

Dung Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 29 August 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-3, 5, 7, 8, 10-16 and 18-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5, 7, 8, 10-16 and 18-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 08/29/2006 has been entered.

2. Applicant's amendment dated 01/26/2006 has been received and entered. By the amendment, claims 1-3, 5, 7-8, 10-16, 18 and newly added claims 19-20 are now pending in the application.

### ***Specification***

3. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

### ***Drawings***

4. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the continuous common electrode layer, the continuous pixel electrode, the discontinuous common electrode, the first/second/third voltage(s) must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Rejections - 35 USC § 112***

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 1-3, 5, 7-8, 10-16, 18-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claims 1, 13 and 19, it is confusing and unclear what is means by "applying *different* voltage to the continuous first common electrode layer and the discontinuous second

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common electrode” and/or “a first voltage ... a second *different* voltage is applied to a discontinuous second common electrode layer” (emphasis added). It should be noted that “voltage” is denoted for electric potential or potential difference between two point (e.g., two electrode) while Applicant just recite the first/second/third voltage(s) being applied to the continuous/discontinuous common electrode. For the purposes of examination, as best understood, it is assumed that Applicant tends to recite the voltage (e.g., first voltage) applied to the continuous first common electrode and the pixel electrode being different from the voltage (e.g., second voltage) applied to the discontinuous common electrode and the pixel electrode.

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1-3, 5, 7-8, 11-15 and 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matsuyama et al., US Patent No. 6,469,765.

Regarding the above claims, Matsuyama et al. disclose a liquid crystal display (LCD) device (figures 9-10) comprising:

a first substrate (902) with a (continuous) first common electrode (908)

a second substrate (802) with both a (continuous/discontinuous) pixel electrode (300) and

a (continuous/discontinuous) second common electrode (410) with a gap therebetween

a liquid crystal layer (1000)

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means for generating an electric field (first electric field) between the first common electrode layer and the pixel electrode layer, an electric field (second electric field) between the second common electrode layer and the pixel electrode layer (see figure 4), wherein the first electric field can be different from the second electric field (see col. 13, ln 61).

Although Matsuyama et al. do not explicitly disclose a display with a fast response to high input data rates and allows for wide viewing angles for viewers, one of ordinary skill in the art would be able to achieve the same result for the Matsuyama et al. display because of the same display structure as well as the method of using such display. Therefore, it would have been obvious to one skilled in the art at the time of the invention was made to employ the similar display as well as a method of using as shown by Matsuyama et al. display in order to obtain a fast response display.

9. Claims 10 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matsuyama et al., US Patent No. 6,469,765, in view of Nakanishi et al, US Patent No. 6,819,384.

Regarding claims 10 and 16, As to claim 10, Matsuyama et al. do not appear to explicitly specify a dielectric layer/resistive layer adjacent a common electrode layer. Nakanishi teaches and discloses a liquid crystal display panel capable of reducing persistence degree and a development method (see Title). In particular, Nakanishi's figure 32 illustrates a dielectric layer (13) adjacent a flat electrode (12) to reinforce the lateral component of the electric field in the liquid crystal so that the liquid crystal can be driven with a lower applied voltage (Column 1, Lines 59-66). Nakanishi is evidence that ordinary workers in the field of liquid crystals would

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have found the reason, suggestion and motivation to include a dielectric layer adjacent a common

electrode layer to reinforce the lateral component of the electric field in the liquid crystal so that the liquid crystal can be driven with a lower applied voltage (Id). Therefore, it would have been obvious to one of ordinary skill in the art of liquid crystals at the time the invention was made to modify Matsuyama in view of Nakanishi to reinforce the lateral component of the electric field in the liquid crystal so that the liquid crystal can be driven with a lower applied voltage (Id.).

#### ***Response to Arguments***

10. Applicant's arguments have been considered but are moot in view of the new ground(s) of rejection as stated above (i.e., the rejection is based on figures 9-10 instead of the figures 1-3). In addition, the method of driving can be both directed to figure 4. Furthermore, Applicant contends that Matsuyama discloses applying the same voltage to the first common electrode and the second common electrode. It might be true; however, as stated the above paragraph 6, it is unclear what Applicant tend to claim "the voltage" means in the application. As best understood, these limitation being examined as "electric field" (e.g. voltage applying to the common electrode layer and the pixel electrode layer to form an electric field) and it can be read by Matsuyama et al. (see column 13, lines 60-62).

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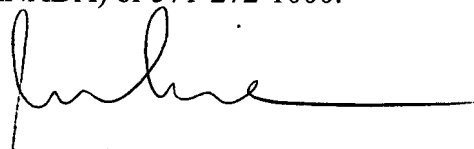
***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dung Nguyen whose telephone number is 571-272-2297. The examiner can normally be reached on Tuesday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Nelms can be reached on 571-272-1787. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

DN  
05/29/2007

  
***Dung Nguyen***  
***Primary Examiner***  
***Art Unit 2871***